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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,307	02/07/2005	Walter Gentele	411076.00014	6445
26710 7590 05/03/2007 QUARLES & BRADY LLP 411 E. WISCONSIN AVENUE SUITE 2040 MILWAUKEE, WI 53202-4497			EXAMINER KURR, JASON RICHARD	
			ART UNIT 2615	PAPER NUMBER
			MAIL DATE 05/03/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/524,307

Applicant(s)

GENTELE, WALTER

Examiner

Jason R. Kurr

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim 2 has been canceled and thus will not be further considered by the Examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama et al (US 6,057,659) in view of Thiel (US 6,687,379 B1).

With respect to claim 1, Akiyama discloses a loudspeaker arrangement in a device (fig.1) for playback of stereophonic audio signals with a housing (fig.1 #11a) arranged in the device, a loudspeaker for bass signals (fig.1 #14, col.3 ln.31-34) and loudspeakers for mid-range and treble signals (fig.1 #17,18, col.4 ln.14-19), in which crossover networks (fig.8 #62,65,68) separate the stereophonic audio signals for playback with loudspeakers into a bass signal and mid-range and treble signals, characterized by the fact that the crossover networks have a crossover frequency higher than the cut-off frequency of loudspeaker for bass signals (col.8 ln.7-38).

Akiyama does not disclose expressly wherein the loudspeaker device (fig.1 #14) for bass signals is a sub-woofer.

Thiel discloses an adjustable crossover system (fig.2 #200) for a loudspeaker system including a subwoofer (fig.2 #290), wherein the crossover frequency is adjustable (col.4 ln.29-50) to obtain a flat frequency response throughout the audible frequency spectrum (col.1 ln.61-67, col.2 ln.1-8).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the subwoofer and crossover system of Thiel in the invention of Akiyama. This would provide a system that allows a user to adjust the crossover frequency according to loudspeaker characteristics, so as to cover a crossover frequency range including 350Hz.

The motivation for using the crossover system of Thiel would have been to allow a user to fine tune the frequency ranges being reproduced by each respective loudspeaker, thus allowing the system to achieve a desired flat frequency response.

With respect to claim 3, Akiyama discloses the loudspeaker arrangement according to claim 1, wherein the loudspeakers for the mid-range and treble signals and the sub-woofer loudspeaker for the bass signals have their own closed partial housing (fig.1 #11,22).

With respect to claim 4, Akiyama discloses the loudspeaker arrangement according to claim 3, wherein the partial housing of loudspeaker for the mid-range and treble signals and the sub-woofer loudspeaker for bass signals are connected to each other by chambers (fig.1 #21,28).

With respect to claim 11, Akiyama discloses the loudspeaker arrangement according to claim 1, wherein the loudspeaker arrangement is a component of an

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entertainment electronics device (col.2 ln.10-15).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama et al (US 6,057,659) in view of Thiel (US 6,687,379 B1) and in further view of Kobayashi (US 4,044,855).

With respect to claim 5, Akiyama discloses the loudspeaker arrangement according to claim 4, however does not disclose expressly wherein at least one of the chambers and the partial housings are acoustically dampened. Kobayashi discloses a loudspeaker device wherein the acoustic chamber of the loudspeaker is acoustically dampened (col.1 ln.20-37). At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the acoustic dampening methods of Kobayashi in the speaker chamber of Akiyama. The motivation for doing so would have been to increase the apparent inner volume of the chamber, thus improving the bass characteristic of the speaker as taught by Kobayashi.

Claims 6-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiyama et al (US 6,057,659) in view of Thiel (US 6,687,379 B1).

With respect to claims 6 and 7, Akiyama discloses the loudspeaker arrangement according to claim 1, however does not disclose expressly the volumes of the speaker housings. At the time of the invention it would have been obvious to a person of ordinary skill in the art to make Akiyama's housing volumes of substantial size whether it be 0.5-1.5 L for the bass speaker or 0.04 L for the treble/midrange speakers. The

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motivation for doing so would have been to properly reproduce quality acoustic signals by supplying a volume capable of containing speakers of a certain size.

With respect to claim 8, Akiyama discloses the loudspeaker arrangement according to claim 1, however does not disclose expressly wherein the loudspeakers for the mid-range and treble signals have a distance from each other of 150-500 mm. Akiyama does disclose the distance as being between 300-700mm (col.2 ln.6-9). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the invention of Akiyama to include a minimum distance of 150 mm. The motivation for doing so would have been to minimize the size of the apparatus, thus making it more portable.

With respect to claims 9 and 10, Akiyama discloses the loudspeaker arrangement of claim 1, however does not disclose expressly the power being supplied to the loudspeakers. Official Notice is taken that the concept of supplying speakers with appropriate power, such as 5-16 watts or 3-7 watts is well known and expected in the art. It would have been obvious to supply the speakers of Akiyama with power in the disclosed ranges in order to allow the speakers to operate in peak conditions.

With respect to claim 12, Akiyama discloses the loudspeaker arrangement according to claim 1, however does not disclose expressly wherein the loudspeaker arrangement is a component of a monitor or computer. Akiyama discloses in column 2

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lines 10-15 the capability of connecting the apparatus to a tape recorder or CD player. Official Notice is taken that it is well known in the art that external audio devices can be connected to computers for the purpose of acting as the computers sound system. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use this connection to interface with a computer or monitors audio output. The motivation for doing so would have been to provide a portable speaker device for portable computing devices such as laptops.

Response to Arguments

Applicant's arguments with respect to claims 1 and 4 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R. Kurr whose telephone number is (571) 272-0552. The examiner can normally be reached on M-F 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 273-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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